

Persons under age 18 are not permitted to operate or
have accessibility to operate this equipment per
U.S. Dept. of Labor Employment Standards
Administration Fact Sheet No. ESA91-3.

univex

TO INSURE BOTH SAFE AND
TROUBLE-FREE PERFORMANCE WE STRESS
THAT ALL PERSONNEL THAT WILL BE
INVOLVED WITH YOUR NEW UNIVEX SLICER
MUST READ AND UNDERSTAND THESE
INSTRUCTIONS **BEFORE** ATTEMPTING TO
OPERATE THIS UNIT.

.....

WE APPRECIATE YOUR COOPERATION AND
YOUR BUSINESS. SHOULD THERE BE A
QUESTION OR IF WE CAN BE OF FURTHER
ASSISTANCE, PLEASE CALL US,
1-603-893-6191.

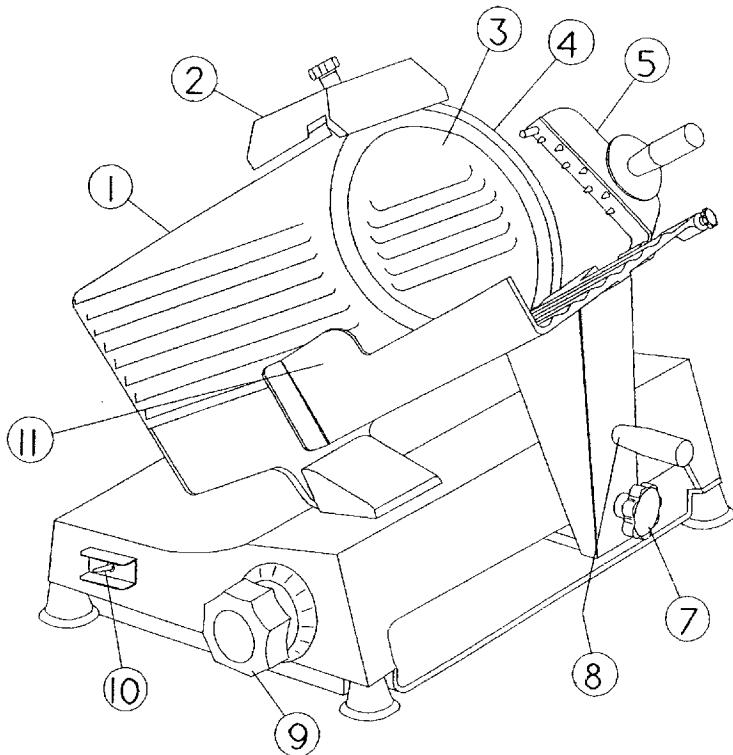
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OVERALL VIEW OF MEAT SLICER
MODEL 4509/4510/4512
FIGURE 1



1 FENCE	7 CARRIAGE ARM KNOB
2 KNIFE SHARPENER	8 CARRIAGE ARM
3 KNIFE GUARD	9 GRADUATED KNOB
4 PROTECTIVE GUARD	10 ON-OFF SWITCH
5 LAST SLICE DEVICE	11 CARRIAGE
6 ELECTRIC CORD (NOT SHOWN)	12 SERIAL NAME PLATE (NOT SHOWN)

INSTRUCTION MANUAL

INTRODUCTION

This manual contains instructions for the Installation, Operation, Care, Maintenance and Repair of the Meat Slicing Machine. Disassembly, Repair, Replacement and Reassembly Instructions are included. A trouble shooting guide is provided. A complete Replacement Parts List with identifying figures is also included to facilitate identification and ordering of replacement parts.

INSTALLATION INSTRUCTIONS

INSPECTION

All Univex slicers are inspected and tested at the factory; however, they should be reinspected carefully by the person making the installation for loose, damaged or broken parts. Detached parts and fixtures should be checked against packing list to determine all are present. Any damages, imperfections or shortages should be reported to the dealer or Univex and shipping carrier.

Warning: After slicer has been inspected, wash slicer completely with warm water and mild soap. For SAFETY, follow the cleaning instructions on Page 6.

INSTALLATION

The most efficient installation of your Univex slicer will depend upon the layout of your kitchen. Locate your slicer where it will save steps for the operator and be sure to provide sufficient clearance around it for ease of maintenance and cleaning, as well as for efficient and safe use.

Slicer should be operated on a sturdy bench or table with the height determined to suit the operator. It is most important that the forearm of the operator be at the proper level for ease and safety of operation, as well as for maximum production. This height is considered optimum when the carriage handle (Figure 1 [8]) of the slicer is at approximately the height of the operator's elbow when standing.

IMPORTANT

Warning/Caution: Electrical wiring instructions are found in the wiring diagram (Figure 7) Before making electrical connections, CHECK the specifications on the nameplate to make sure that they agree with those on your electrical service. A grounding type three-terminal plug is provided for safety. If you do not have a mating receptacle, have a qualified electrician provide one with grounding provisions in accordance with local safety codes.

IMPORTANT SAFETY WARNINGS

It is a violation of United States Department of Labor regulations to permit operation of the slicer by any person under the age of 18 years.

Warning: The slicer knife is extremely sharp! Never touch the knife, always keep hands and fingers clear of the knife. Never run slicer without the guard and all other parts in place and securely fastened. Take extra care to avoid accidents by keeping the knife guard and sharpening assembly cover ON at all times. When

the machine is not in use, the slice adjustment knob should be turned fully back to the closed position (beyond "0") so that the knife edge is not exposed.

Observe the cleaning instruction on Page 6 for best results and for safety. Also remember to always turn off the slicer and disconnect the electrical supply cord before cleaning.

When slicing, always work the carriage using only the carriage arm handle (Figure 1 [8]). Do not hold or push the carriage from any other place.

OPERATION INSTRUCTIONS

The Univex slicer is designed to meet the cook's demand for an efficient, sturdy slicer. The Univex slicer will give unfailing performance over a period of years, when operated and maintained according to instructions contained herein.

START/STOP SWITCH

The slicer is started by toggling the ON/OFF switch (Figure 1 [10]) to the ON position.

SLICE ADJUSTMENT

Warning: Dial-type knob adjustment (Figure 1 [9]) allows for slice thicknesses ranging from paper thin up to 1/2". Dial graduations allow you to precisely set up specific slice thicknesses for various needs. When not in use, always return knob back to its fully closed position (beyond "0") so that the knife edge is not exposed.

POSITIVE HOLD CARRIAGE

Caution: A last slice gravity feed grip (Figure 1 [5]) is provided. Do not use this last slice device to work the carriage back and forth. Use only the carriage arm handle (Figure 1 [8]).

Always make sure the carriage is positively secured to the slicer by checking to see that the carriage arm knob (Figure 1 [7]) is fully tightened. Failure to do this could result in the carriage striking and damaging the knife edge.

PROTECTIVE GUARD

Warning: The protective guard (Figure 1 [4]) covers the knife edge completely except under the sharpener cover and the forward edge where slicing will be performed. This forward edge is covered by the edge of the fence, but only when the slice adjustment is completely closed.

The knife guard (Figure 1 [3]) can be removed for cleaning by unscrewing the knife guard knob (Figure 3 [11]). For safety, keep the knife guard on at all times except when cleaning. Never operate the slicer with the knife guard removed.

SHARPENING INSTRUCTIONS

This slicer is equipped with a knife having a concave or hollowed surface for superior slicing quality. Of course, any knife, however superior, must be sharpened regularly and properly in order to produce not only the highest quality slices, but also to allow it to maintain its productivity. The knife sharpener (Figure 1 [2]) on this machine is a top mounted built-in mechanism, designed for simplicity and ease of use.

Warning: The following sharpening procedure will provide high quality sharpening results and should also be followed for safety considerations:

1. **Warning:** Keep away from the knife edge.
2. Completely close the slice adjustment (beyond "0") so that the knife edge is not exposed.
3. The knife cutting area should be clean and free from food, especially grease. Grease will ruin the ability of a grinding stone to sharpen an edge. The stone simply will not cut. If cleaning is necessary, follow the procedure outlined on Page 6.
4. Loosen sharpener knob assembly (Figure 8 [4]) which bears against sharpener post, then lift sharpener assembly (Figure 1 [2]) and rotate it 1/2 turn (180°). Then force it down over the knife.
5. Tighten sharpener knob assembly (Figure 8 [4]). As the knob assembly is tightened, it bears on the sharpener post and automatically aligns the grinding and deburring stones to the precise orientations which are preset at our factory.
6. Turn slicer ON. This will start the grinding process. Run until the beveled cutting surface (back side of blade) cleans up. This can take from 30 seconds to several minutes depending on how dull the blade was allowed to become. Turn slicer OFF.
7. Check for the formation of a very slight burr on the side of knife opposite the bevel (front side of blade) which indicates complete grinding of the bevel. This slight burr can be detected either visually or by picking with a small piece of stiff paper.
8. Turn slicer ON. Lightly press deburring (honing) button (Figure 8 [15]) of the sharpener assembly and hold for 1 to 2 seconds while you turn OFF the slicer. Blade should now be completely sharpened and honed.
- Caution:** It is important for best slicing results not to deburr the knife too long or the keen edge will be destroyed due to the formation of an undesirable second bevel on the opposite side. This condition tends to be the primary cause of unsatisfactory slicing results.
9. Turn slicer OFF. Loosen knob assembly, (Figure 8 [4]) then lift and return sharpener to its storage position. Tighten knob assembly.
10. Clean slicer and knife according to the cleaning procedure on Page 6 in order to thoroughly remove grinding debris.

OPERATORS CARE OF SLICER**CLEANING**

Warning: 1. Never touch the knife edge. Always keep your hands, fingers and arms clear of knife.

Warning: 2. Turn off slicer and DISCONNECT ELECTRICAL CORD before cleaning. Leave protective guard (Fig. 1 [4]) in place.

3. Turn slice adjustment knob (Figure 1 [9]) to the fully closed position (beyond "0") so that the knife edge is not exposed.

Caution: 4. Remove carriage assembly (Figure 1 [5, 8, 11]) by loosening carriage knob (Figure 1 [7]) and lifting off. Carriage may be washed in a sink. Use care in washing the sharply pointed prongs on the last slice device, (Figure 1 [5]). Wash this area thoroughly. A small bristle brush is recommended. Use only warm water and mild soap. Rinse carriage assembly with warm water and dry thoroughly using a clean soft cloth.

Never use detergents or wash the slicer or any of its parts in a dish washing machine or the clear protective finish will be damaged.

Warning 5. Wash body of slicer using warm water and mild soap using a clean soft cloth. Under no circumstances should the slicer be hose rinsed. It is recommended that the cloth be folded over a thin wooden stick when cleaning between the fence and the knife.

6. Remove knife guard (Figure 1 [3]) by loosening knife guard knob (Figure 3 [11]) and pushing the long stud upward to lift knife guard above surface of knife. Then carefully lift and remove guard.

7. Remove knife deflector (Fig. 3 [6]) by unscrewing screw (Fig. 3 [7]).

Warning: 8. CAREFULLY wash the front and rear of the knife with a cloth using warm water and mild soap. It is recommended that the cloth be folded over a thin wooden stick as a further caution to avoid accidental contact with the knife edge. CAREFULLY wash between the knife edge and protective guard (Figure 1 [4]) using a soft cloth inserted between knife edge and guard on both front and rear of knife using extreme caution to never touch the knife edge. Rinse with warm water applied with a cloth. Dry thoroughly with a clean soft cloth.

Caution: 9. Following cleaning, a commercial nontoxic sanitizer may be wiped on the clean surfaces with a soft clean cloth or sprayed as recommended on the container labeling. It is important that the sanitizer be compatible with anodized aluminum or the clear protective finish on the slicer will be damaged. Surface should be wetted completely, but not to the point of running or puddling.

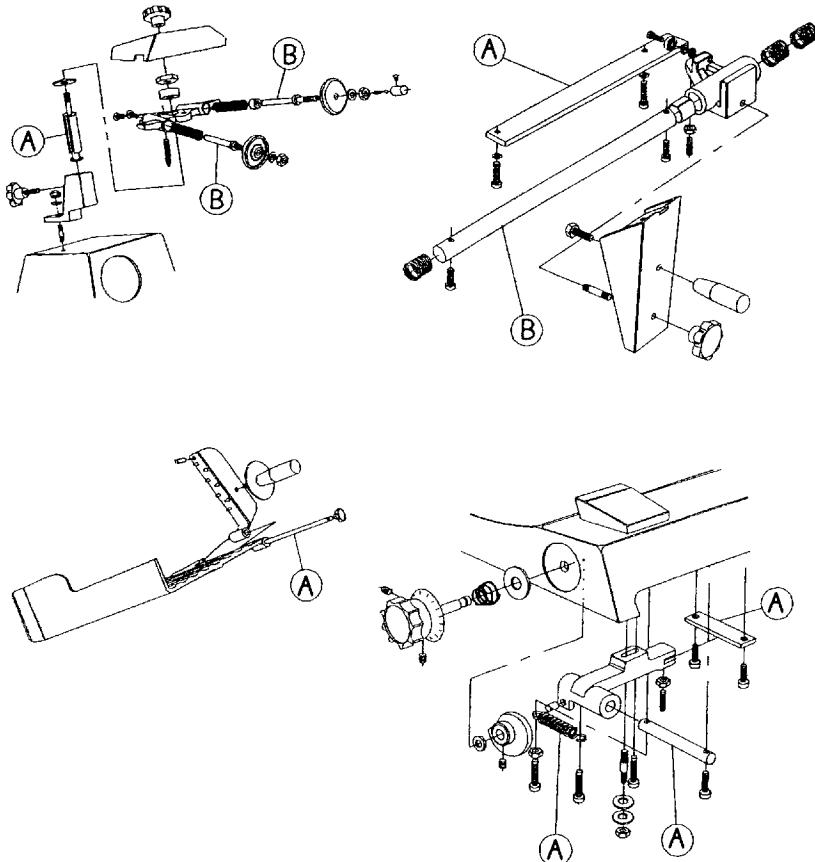
Warning: 10. Replace the knife guard. Never leave the slicer without its knife guard installed!

11. Replace knife deflector.

LUBRICATION & FUNCTION CHECK

Warning: Turn off slicer and DISCONNECT ELECTRICAL CORD before lubricating. Leave protective guard (Fig. 1 [4]) in place.

General lubrication should be performed in accordance with the lubrication instructions in Fig. 2. During this lubrication sequence, be sure to check for free operation and movement of related parts as well as for excessive wear and looseness of various parts. Be sure to check all handles and knobs for tightness.

LUBRICATION
FIGURE 2

A -Apply Petro-Gel (4400408) often as required to maintain light film.

B - Clean and apply mineral oil weekly

MECHANICS MAINTENANCE

Every year a mechanic or service technician should perform the following inspection and carry out the respective maintenance as required:

Warning: FOR SAFETY, TURN OFF SLICER AND DISCONNECT ELECTRICAL CORD.

1. **BELT DRIVE** - This drive features a multi-ribbed high performance belt for long trouble-free service. Inspect belt for proper tension. If worn, replace. If tension requires adjustment, it may be obtained by loosening nut (Fig. 7 [2]) and turning screw (Fig. 7 [3]) clockwise until desired tension is achieved. Holding screw (Fig. 7 [3]) stationary, tighten nut (Fig. 7 [2]) against motor casing.
2. **CARRIAGE** - Check for free smooth operation of last slice device and for smooth travel of carriage arm (Fig. 4 [2]). Check for excess backlash between slide bearing (Fig. 4 [10]) and carriage slide bar (Fig. 4 [8]). The correct lash (clearance) required for smooth carriage operation is obtained when a very slight lash or movement can be detected. Too much lash can result in the carriage striking and damaging the knife edge. Too little lash results in binding and a loss of smoothness in carriage travel. Lash is adjusted by loosening locknut (Fig. 4 [14]) and turning set screw (Fig. 4 [15]) clockwise to reduce lash and counterclockwise to increase lash. Tighten locknut while holding nylon tipped stud stationary with a screwdriver so it does not move. Grease only the side of the carriage slide (Fig. 4 [8]) on which this set screw slides. General guidelines: tighten screw until snug and then loosen 1/8 turn and tighten locknut as described above
3. **LUBRICATION & FUNCTION CHECK** - General lubrication should be performed in accordance with the lubrication instructions in Fig. 2. During this lubrication sequence, be sure to check for free operation and movement of related parts as well as for excessive wear and looseness of various parts. Be sure to check all handles and knobs for tightness.
4. **KNIFE** - Check knife edge to see that it has been properly sharpened. If there is any evidence of incorrect sharpening procedure, such as excessive honing, alert owner and operator.

TROUBLESHOOTING GUIDE 4509/4510/4512

TROUBLE	POSSIBLE CAUSE	REMEDY
1. Slicer will not operate.	1.1 Electrical service down. 1.2 Burned switch contacts. 1.3 Motor capacitor defective. 1.4 Burned out motor.	1.1 Check electrical service. Replace fuse or reset circuit breaker as necessary. 1.2 Replace switch. 1.3 Replace 1.4 Remove, test, repair or replace.
2. Motor straining but will not turn (humming sound).	2.1 Belt tension too tight.	2.1 Readjust belt tension. NOTE: Often after a long period of no use, such as in storage, the belt flows and takes a set in the pulley ribs. A slight urging of the knife with a wooden stick will get the slicer turning with no further problems. Do not use hands to turn the knife.
3. Slippage of knife during slicing.	3.1 Loose belt. 3.2 Grease or oil on belt.	3.1 Tighten belt tension. 3.2 Clean pulleys with safety approved cleaning solvent on soft clean rag. Replace belt.
4. Motor stalls during slicing.	4.1 Knife cutting edge dull or improperly sharpened 4.2 Product such as cheese old and dried out. 4.3 Low voltage service 4.4 Belt tension excessive.	4.1 Sharpen using the procedure specified. Use care not to use honing stone longer than the 1 to 2 seconds. 4.2 Reduce thickness of slice. 4.3 Have electrician check service voltage. 4.4 Readjust belt tension.
5. Excessive noise.	5.1 Knife contacting the knife guard. 5.2 Badly worn or frayed drive belt. 5.3 Motor pulley and belt misaligned. 5.4 Loose set screw in motor pulley. 5.5 Knife contacting deflector. 5.6 Knife contacting sharpener. 5.7 Carriage contacting fence or knife.	5.1 Tighten knob which secures guard. 5.2 Replace belt. 5.3. Realign motor pulley. 5.4 Tighten set screw. 5.5 Adjust deflector. 5.6 Adjust sharpener. 5.7 Tighten knob which secures carriage.
6. Smearing or tearing when slicing soft cheese.	6.1 Soft cheese is at room temperature. 6.2 Knife dirty with hard dried-on product.	6.1 Chill soft cheese for best slicing results. 6.2 Clean knife thoroughly.

REPAIR INSTRUCTIONS
Including disassembly, replacement, and reassembly.

Warning: Always turn off slicer and disconnect electrical cord before doing any maintenance or repair on the slicer. Keep guards on at all times. Keep slice adjustment fully closed so knife edge is not exposed. Keep sharpener assembly also in place so top of knife edge is not exposed.

KNIFE REPLACEMENT (Figure 3)

1. **Warning:** Disconnect electrical power cord.
2. Remove carriage assembly (Figure 1 [8, 11])
3. Loosen sharpener knob assembly (Figure 8 [4]), then lift and remove sharpening unit. Set aside.
4. Remove knife guard knob (Figure 3 [11]) and carefully remove knife guard (Figure 3 [21]).
5. **Warning:** Using caution to avoid the sharp knife edge, remove the three screws (Figure 3 [20]) that secure knife (Figure 3 [23]).
6. Carefully remove knife and set aside with its flat side down flush on a bench so the edge is not exposed.
7. Reinstall new knife in the reverse procedures outlined above.
8. Even though a new knife is very sharp, the sharpening procedure specified on page 5 should be performed to true the new knife's bevel to the slicer.

Warning: Worn knife should be disposed of in a safe responsible way, showing concern for others who may handle it. It is recommended that the edge of the knife be wrapped several times with heavy tape and that a caution (CAUTION: SHARP EDGE) be written on both sides of the knife.

SHARPENING STONES

1. **Warning:** Disconnect electrical cord.
2. Unscrew sharpener knob assembly (Figure 8 [4]).
3. Lift up sharpening assembly (Figure 1 [2]) and remove from slicer.
4. Using an open end wrench, unscrew cover knob (Figure 8 [8]). It is recommended that a piece of tape or paper be temporarily wrapped around knob prior to unscrewing it so as to protect its finish. Remove cover (Figure 8 [9]) off of mount assembly.
5. Unscrew nut (Figure 8 [21]) and remove along with washer and sharpening stone (Figure 8 [23]).
6. Install new sharpening stone. Hollowed side should be toward the outside.

7. Honing (deburring) stone (Figure 8 [18]) is removed by first unscrewing lock screw (Figure 8 [14]) from button (Figure 8 [15]).
8. Gently remove button taking care to not lose the small ball bearing and spring (Figure 8 [16 & 17]) which are inside.
9. Unscrew nut (Figure 8 [13]) and remove along with washer and honing stone (Figure 8 [18]).
10. Install new honing stone with the hollowed side toward the inside.
11. Reattach cover and reinstall in the reverse procedures (4. through 1.).

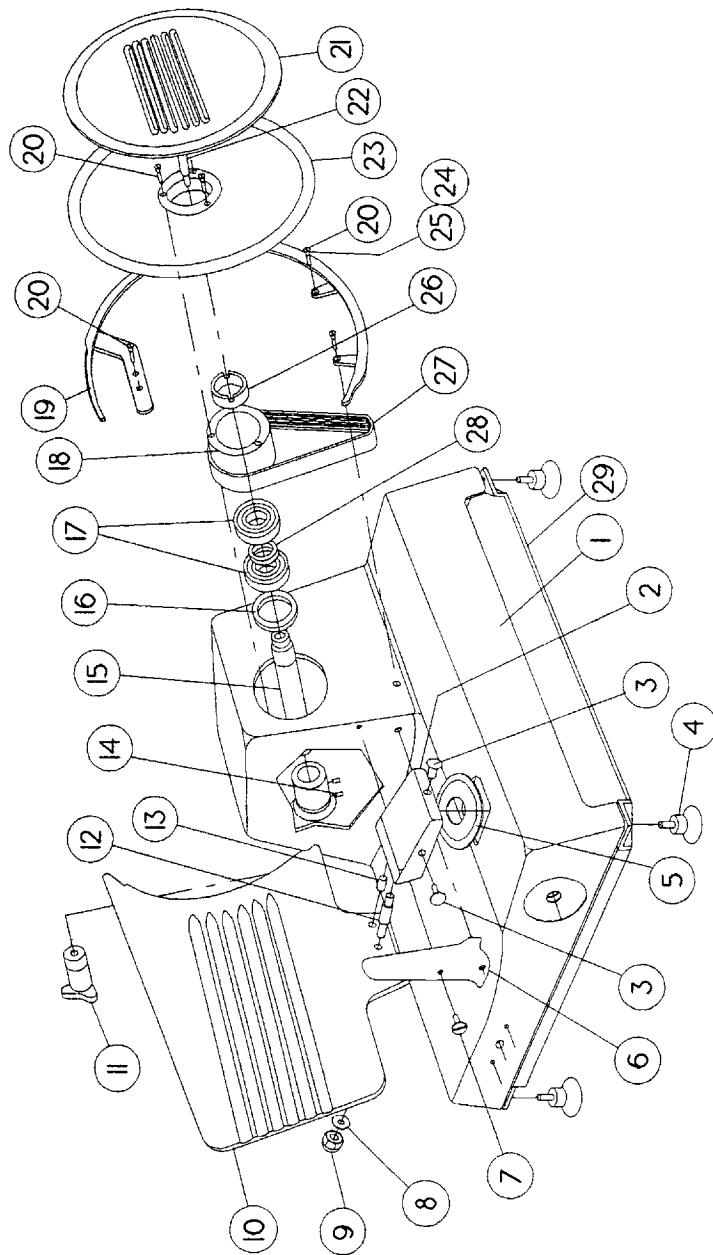
DRIVE BELT REPLACEMENT

1. **Warning:** Disconnect electrical power cord.
2. Remove knife per knife replacement instructions.
3. Remove four rubber suction feet (Figure 3 [4]) that secure bottom cover (Figure 3 [29]) to slicer. Remove cover.
4. Loosen nut (Figure 7 [2]) on motor adjustment screw (Figure 7 [1]). Loosen motor adjustment screw .
5. Loosen set screws (Figure 7 [15 & 17]). Slide motor pivot rod (Figure 7 [16]) to the right (towards the blade) until left end of rod disengages with base casting.

6. Pivot motor to unwrap belt from motor pulley shaft.
7. Remove drive belt through the knife pulley opening in base casting.
8. Install replacement belt on knife pulley and on motor pulley shaft. DO NOT reinstall knife at this time.
9. Reinstall motor pivot rod. Tighten set screw (Figure 7 [15]).
10. Position the pivot rod collar (End of motor shaft should be 1/16 - 1/8" away from base casting. If not slide motor along rod accordingly.) Tighten collar set screw (Figure 7 [17]).
11. Align belt on motor shaft and knife pulley.
12. Tighten motor adjustment screw (Figure 7 [3]) until adequate belt tension is acquired. DO NOT over tighten. Tighten jam nut (Figure 7 [2]).
13. Connect electrical power cord and operate slicer to check that belt and pulley are running true.
14. Turn off slicer and disconnect electrical power cord.
15. Reinstall bottom cover and secure with the four suction feet.
16. Using caution, reinstall knife and secure with three screws.
17. Reinstall knife guard and secure with knife guard knob.
18. Reinstall sharpener and secure with knob assembly.

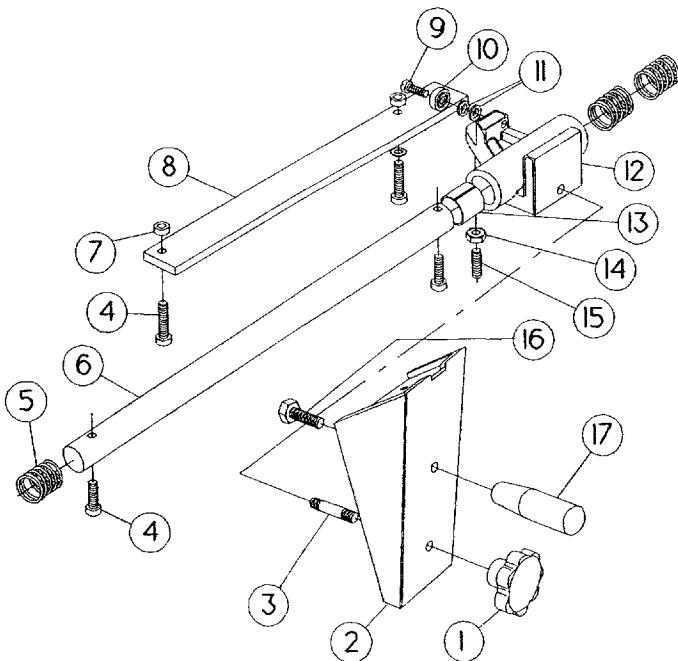
HOUSING, KNIFE & FENCE ASSEMBLY
FIGURE 3

ILLUS.	PART NO.	DESCRIPTION	QTY
1	4509020	BASE, CASTING (4509, 4510)	1
	4512020	BASE CASTING (4512)	1
2	4509021	SUPPORT (4509, 4510)	1
	4512021	SUPPORT (4512)	1
3	4512032	PLUG (4512 ONLY)	2
4	6509093	FOOT	4
5	4512031	SHIELD (4512 ONLY)	1
6	4509022	DEFLECTOR (4509, 4510)	1
	4512022	DEFLECTOR (4512)	1
7	6509024	SCREW	2
8	4509066	WASHER	1
9	6509081	NUT, ACORN	1
10	4509023	FENCE, 9 IN.	1
	4510023	FENCE, 10 IN.	1
	4512023	FENCE, 12 IN.	1
11	4509024	KNOB, KNIFE GUARD (4509, 4510)	1
	4512024	KNOB, KNIFE GUARD (4512)	1
12	6509080	STUD	1
13	4509058	PIN (4509, 4510 ONLY)	1
14	6509089	SET SCREW, M6-1.0 X 14 CUP POINT	2
15	4509085	BLADE SUPPORT	1
16	4509059	RETAINING RING	1
17	4509027	BEARING	2
18	4509086	PULLEY	1
	4509026	PULLEY ASSEMBLY (INCLUDES 15, 17, 18, 26, 28)	
19	4509028	GUARD, PROTECTIVE, 9 IN.	1
	4510028	GUARD, PROTECTIVE, 10 IN.	1
	4512025	GUARD, PROTECTIVE, 12 IN.	1
20	8512229	SCREW, (4509,4510)	7
	8512229	SCREW, (4512)	5
21	4509029	GUARD, KNIFE, 9 IN.	1
	4510029	GUARD, KNIFE, 10 IN.	1
	4512026	GUARD, KNIFE, 12 IN.	1
22	4509030	ROD, KNIFE GUARD (4509, 4510)	1
	4512027	ROD, KNIFE GUARD (4512)	1
23	6509013	KNIFE, 9 IN.	1
	6510013	KNIFE, 10 IN.	1
	4512028	KNIFE, 12 IN.	1
24	4512030	SPACER (4512 ONLY)	2
25	4512029	SCREW (4512 ONLY)	2
26	7510008	INSERT, PULLEY	1
27	4509088	BELT	1
28	4509087	SPACER, BEARING	1
29	4509034	COVER, BOTTOM	1

**HOUSING, KNIFE & FENCE ASSEMBLY
FIGURE 3**

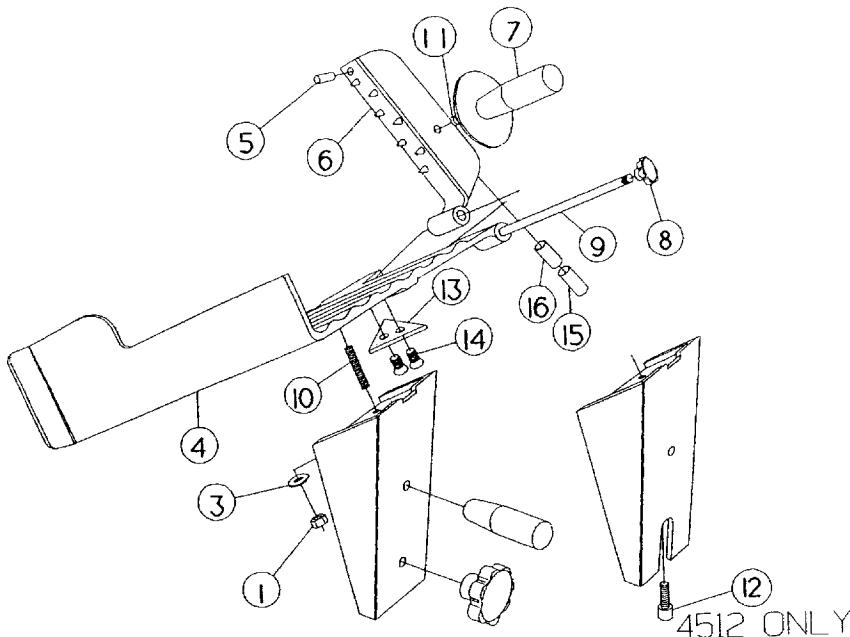
CARRIAGE ARM ASSEMBLY
FIGURE 4

ILLUS.	PART NO.	DESCRIPTION	QTY
1	6509017	KNOB, CARRIAGE ARM	1
2	4509053	ARM, CARRIAGE 4509	1
	4510053	ARM, CARRIAGE 4510	1
	4512033	ARM, CARRIAGE 4512	1
3	6509080	SCREW, ARM ATTACHMENT	1
4	7510035	SCREW	4
5	4509065	SPRING	3
6	4509054	ROD, ARM	1
7	4509089	SPACER	2
8	4509055	BAR, FRAME	1
9	1204004	SCREW, M5-0.8 X 16	1
10	4509069	BEARING	2
11	1200076	WASHER	5
12	4509056	BUSHING, ARM	1
13	4509057	BUSHING	2
14	6509074	NUT	1
15	6509073	SET SCREW	1
16	8512308	SCREW, HX HD M8-1.25 X 28	1
17	6509054	HANDLE	1



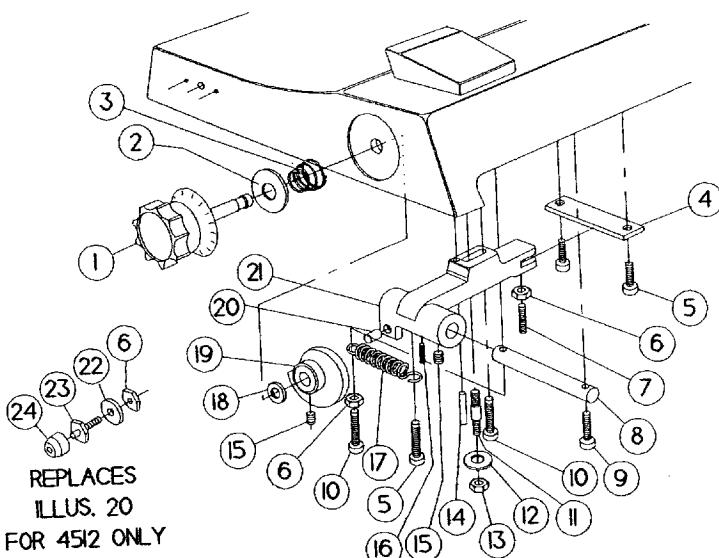
CARRIAGE ASSEMBLY
FIGURE 5

ILLUS.	PART NO.	DESCRIPTION	QTY
1	4400410	NUT, M8 (4509,4510)	1
	4512046	NUT, M10 (4512)	1
2		RESERVED	
3	8512439	WASHER (4509, 4510)	1
	6509059	WASHER (4512)	1
4	4509048	CARRIAGE (4509, 4510)	1
	6512035	CARRIAGE (4512)	1
5	4509063	NYLON TIP (4509, 4510)	1
	6509160	NYLON TIP (4512)	1
6	4509051	LAST SLICE DEVICE (4509, 4510)	1
	4512034	LAST SLICE DEVICE (4512)	1
7	4509075	HANDLE (4509, 4510)	1
	4512035	HANDLE (4512)	1
8	6509153	KNOB (4512 ONLY)	1
9	4509052	SHAFT, LAST SLICE DEVICE (4509, 4510)	1
	6509049	SHAFT, LAST SLICE DEVICE (4512)	1
10	6509080	STUD, M8-1.25 X 30 (MODIFIED) (4509, 4510)	1
	4512036	STUD (4512)	1
11	7120129	STUD, M6-1.0 X 20 (4509, 4510)	1
	4512037	STUD, (4512)	1
12	4512038	SCREW, M6-1.0 X 12 (4512 only)	1
13	4512051	CAM STOP (4512 only)	1
14	4512052	SCREW FLAT HD SS M6 X 1MM (4512 ONLY)	2
15	4512953	SLEEVE PLASTIC (4512 ONLY)	1
16	4512054	PIN (4512 ONLY)	1



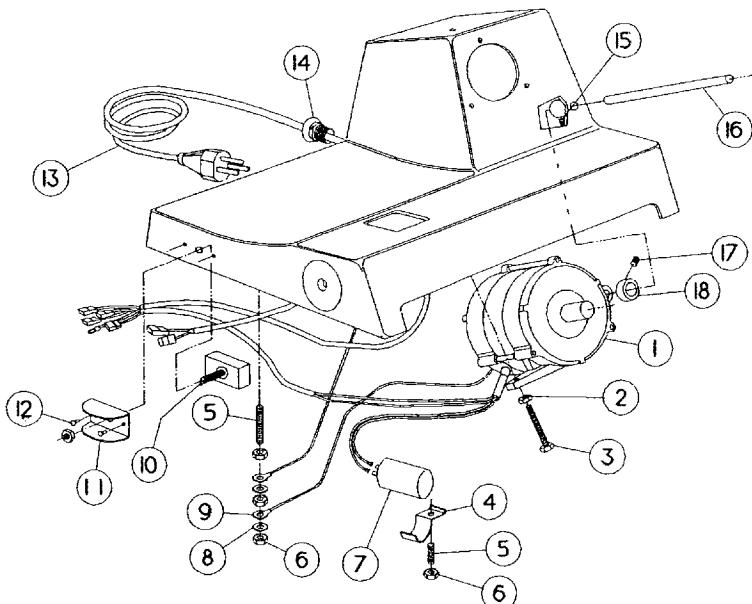
SLICE ADJUSTMENT KNOB ASSEMBLY
FIGURE 6

ILLUS.	PART NO.	DESCRIPTION	QTY
1	4509090	KNOB, SLICE ADJ	1
2	6509059	WASHER, SLICE ADJ	1
3	4509044	SPRING, SLICE ADJ	1
4	4509045	GUIDE	1
5	1204001	SCREW SOC HD CAP M6-1.0 X 12	3
6	6509074	NUT, M6-1.0	2
7	1204043	STUD, M6-1.0 X 11	1
8	4509046	SHAFT	1
9	1204005	SCREW, SOC HD CAP M6-1.0 X 20	1
10	6509040	SCREW, M6-1.0 X 30	3
11	4509061	STUD (4509, 4510 ONLY)	1
12	7510021	WASHER (4509, 4510 ONLY)	1
13	6509072	NUT, M8-1.25 (4509, 4510 ONLY)	1
14	4400116	ROLL PIN (4509, 4510 ONLY)	1
15	6509098	SET SCREW	2
16	4512042	SCREW M6-1.0 X 8 NYLON SLOTTED SS FLAT PT (4512 ONLY)	1
17	6509061	SPRING	1
18	4509068	WASHER	1
19	4509070	CAM	1
20	4509062	PIN (4509, 4510 ONLY)	1
21	4509047	SUPPORT, FENCE HOLDER (4509, 4510)	1
	4512039	SUPPORT, FENCE HOLDER (4512)	1
22	6509041	WASHER	1
23	4512041	STUD, (4512 ONLY)	1
24	4512040	PIN (4512 ONLY)	1



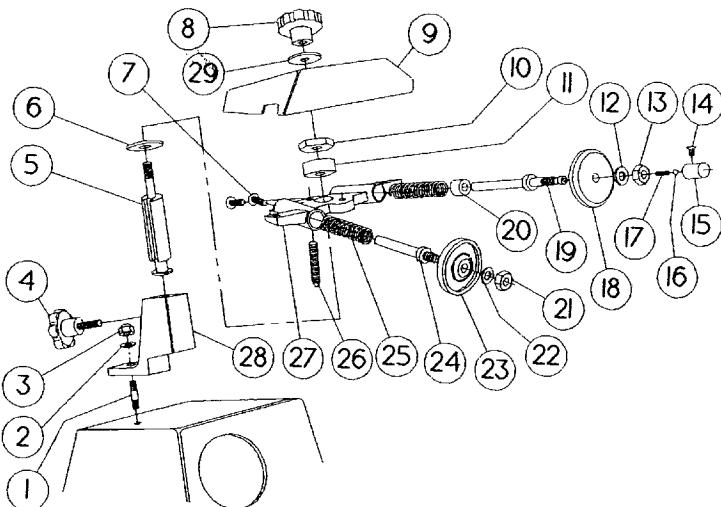
MOTOR & ELECTRICAL ASSEMBLY
FIGURE 7

ILLUS.	PART NO.	DESCRIPTION	QTY
1	4509073	MOTOR, 115V, 60HZ, 1PH (4509, 4510)	1
	4512043	MOTOR, 115V, 60HZ, 1PH (4512)	1
	4509077	MOTOR, 230V, 60HZ, 1PH (4509, 4510)	1
	4509078	MOTOR, 230V, 50HZ, 1PH (4509, 4510)	1
2	6509115	NUT, M5-0.8 (4509, 4510)	1
	6509074	NUT, (4512)	1
3	1204002	SCREW, SLOT PAN HD M5-0.8 X 45 (4509, 4510)	1
	4512044	SCREW, M6-1.0 X 70 (4512)	1
4	4509041	CLAMP, CAPACITOR	1
5	1204042	STUD, M6-1.0 X 30, CAPACITOR BRACKET	2
6	6509074	NUT, M6-1.0	4
7	4509072	CAPACITOR 115V/60/1	1
	4509076	CAPACITOR 220V/50-60/1	1
8	1204020	LOCK WASHER, M6	2
9	4509074	WIRE, MOTOR GROUND	1
10	7120009	SWITCH	1
11	7129011	GUARD, SWITCH	1
12	4400081	PIN, SWITCH GUARD	2
13	4400053	CORD, POWER	1
	8800210	CORD, POWER	1
14	1012042	STAIN RELIEF	1
15	6509089	SET SCREW	1
16	4509060	ROD, MOTOR	1
17	6509098	SET SCREW	2
18	4509091	COLLAR	2
CANADA ONLY			
19	4400237	CIRCUIT BREAKER (NOT SHOWN)	1
20	4400227	LABEL, RESET (NOT SHOWN)	1



SHARPENER ASSEMBLY
FIGURE 8

ILLUS. NO.	PART NO.	DESCRIPTION	QTY
1	4509065	STUD, SHARPENER SUPPORT	1
2	6509041	WASHER	1
3	8512852	NUT, ACORN	1
4	4509035	KNOB, ASSEMBLY	1
5	6509124	PIN, SET	1
6	6509125	WASHER, PIN, SET	1
7	6509137	SCREW	2
8	4509036	KNOB	1
9	4509037	COVER	1
10	6509150	NUT	1
11	4509038	SPACER	1
12	6509132	WASHER	1
13	6509131	NUT	1
14	6509136	SCREW	1
15	6509135	BUTTON, STONE DEPRESS	1
16	6509133	BALL	1
17	6509134	SPRING	1
18	4509092	STONE, HONING	1
19	6509129	STUD, HONING	1
20	6509128	BUSHING	1
21	6509143	NUT	1
22	8512516	WASHER	1
23	4509093	STONE, SHARPENING	1
24	4509039	STUD, SHARPENING	1
25	6509127	SPRING	2
26	6509147	STUD MOUNTING	1
27	6509126	MOUNT	1
28	4509040	SUPPORT, SHARPENER 4509	1
	4510040	SUPPORT, SHARPENER 4510	1
	4512045	SUPPORT, SHARPENER 4512	1
29	4509066	WASHER	1



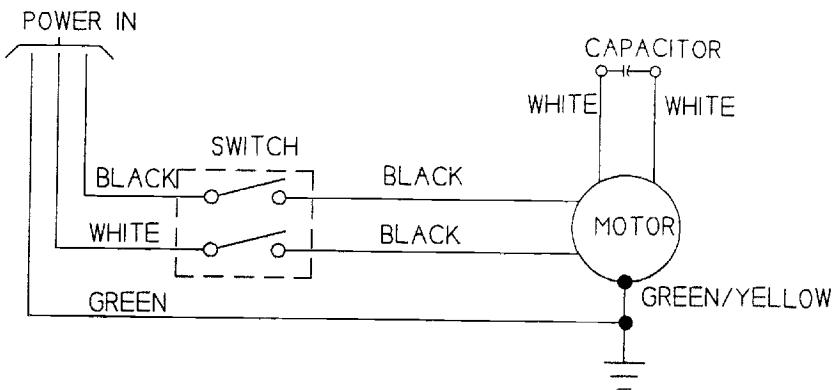
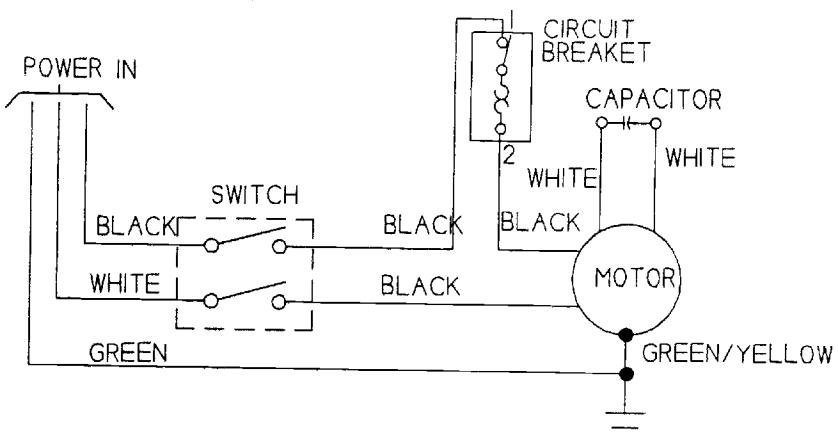
WIRING DIAGRAM MODEL 4509/4510/4512

115V, 60HZ, 1PH

230V, 60HZ, 1PH

230V, 50HZ, 1PH

FIGURE 9

CANADA ONLY
115V, 60HZ, 1PH**IMPORTANT**

Warning: Before making electrical connections, check the specifications on the data plate to assure they agree with those of your electrical service.

Whenever cleaning or maintenance is being performed, DISCONNECT electrical cord.